HP Universal CMDB

Software Version: Content Pack 16.00 (CP16)

Release Notes for HP UCMDB/Universal Discovery Content Pack 16

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Contents

HP UCMDB Content Pack Release Notes

This document provides information about HP Universal CMDB (UCMDB) and Universal Discovery Content Pack 16.

What's New in Content Pack 16

This section provides information about new features and enhancements to Content Pack 16.

Extended Automated Service Modeling Content Coverage

HP CMS 10.21 ASM Package contains the following new features and changes:

- New TCP-based ASM solution enables Service Discovery to discover your business services and applications by detecting the TCP connections between applications. The discovery process starts from a CI that represents the URL of a specified service, and continues only with other CIs that can potentially be related to the service with TCP connections. The Service Discovery process builds dependency graphs from the consumer-provider components which are connected to its neighbor components with consumer-provider relationships.

  A **provider** deployable component delivers a service, and declares how other deployable components can consume that service. A **consumer** deployable component "consumes" a service provided by a provider deployable component. The dependency between these deployable components is a **consumer-provider** dependency.

- The updated ConfigurationFile-based ASM solution supports more technologies, including WebLogic, JBoss, IIS, Tomcat, and Oracle Access Manager. For details, see the *ASM Content Support Matrix* section in the *HP UCMDB Discovery and Integrations Content Guide - Supported Content* for Content Pack 16.00.

> **Note:** The ASM Package works with UCMDB 10.20 (or with 10.20 CUP1) and UCMDB 10.21 (or with a CUP on top of 10.21).

Discovered Operating Systems

- Added support for discovery and inventory (including agent support) for the following operating systems:

  - Apple OS X 10.10

  - CentOS 7

  - Novell SUSE Linux Enterprise Server/Desktop 12

  - Oracle Linux 7

  - Red Hat Enterprise Linux (RHEL) versions 6.6 and 7

  - Ubuntu Linux Server/Desktop 13 and 14

Discovered Applications

- Added support for discovering the following applications:

  - IBM WebSphere Application Server 8 and 8.5

  - Microsoft Internet Information Services (IIS) 8 and 8.5

    > **Note:** The **AppCmd.exe** tool is now used for discovery of IIS version 7 and later versions.

- The **Layer2 Topology by Shell** job now reports Layer2 related data for Cisco Nexus 5000 and 7000 series of switches.

- The **Host Applications by Shell** job supports the Microsoft cluster and EMC cluster.

- Implemented the HTTP proxy setting to discover Amazon Cloud services via web services.

- Added the **Firewall Topology by SNMP** job to discover Fortinet and Juniper firewalls.

- Discovery support for the following versions was dropped:

- ○ JBoss 3.x by JBoss by JMX discovery and JBoss by Shell discovery

- ○ WebLogic 6.x, 7.x, and 8.x

Virtualization Discovery Support

Added support for Citrix Xen Server versions 6.2 up to 6.5.

SNMP Discovery Improvements

- Enhanced the **Host Connection by SNMP** job by adding a new parameter **reportInterfaceName**. This is because reporting the Interface Name of nodes by the **Host Connection by SNMP** job may cause duplicate nodes if these nodes are also being discovered by **Host Connection by Shell** and interface names that are discovered by the jobs are different.

  The **reportInterfaceName** parameter allows you to specify whether you want the job to report the Interface Name of nodes. By default, the **reportInterfaceName** is set to **true**.

Universal Discovery Improvements

- Enhanced the **SAP Solution Manager by SAP JCO** job so that the job can discover IDs for SAP CIs properly. The enhancement includes addition of the following:

  - ○ Added a new attribute **blueprint_element** to the following CITs:

    - sap_bp_project

    - sap_business_process

    - sap_business_scenario

    - sap_process_step

  - ○ Added a new parameter **reportCIsInChunks** in the SAP Business Layer Discovery adapter to report CIs in chunks. This is because the Data Flow Probe server memory is not enough for more than 100,000 SAP Process Step CIs. Also reporting a large number of SAP Process Step CIs without chunking may result in performance issues.

Setting the **reportCIsInChunks** parameter to **true** enables the **SAP Solution Manager by SAP JCO** job to report CIs in several chunks. The default value is **false**.

- For the **Inventory Discovery by Scanner** job, added two attributes **usage_last_used (UsageLastUsed)** and **infocus_usage_last_used (InFocusUsageLastUsed)** to the following CITs:

  - installed_software

  - UserSoftwareUtilization

  The **usage_last_used (UsageLastUsed)** attribute is used to store the last used date for the application based on the software utilization data. The **infocus_usage_last_used (InFocusUsageLastUsed)** attribute is used to store the date that the software was last in focus (for example, interacting with the user - for Windows only).

- Enhanced the **Host Connection by Shell** job by adding a new parameter **useLastSuccessConnection**. Setting the new parameter to **true** allows you to use the last success connection regardless the value of the **udaConnectionOrder** parameter. When the **useLastSuccessConnection** parameter is **false**, the value of the **udaConnectionOrder** parameter will then be considered.

- Enhanced the **Inventory Discovery by Scanner** job by adding a new parameter **udaConnectionOrder**. The new parameter allows you to specify whether you want to use the UD Protocol first or last. The default value of the parameter is **first**.

Integration

- AM Generic, Push, and Population adapters now support Asset Manager (AM) version 9.50.

- Pushed the Global ID of more CI types to Asset Manager to improve the reconciliation. Now All CI types in the out of the box push mapping support global_id in reconciliation.

- In the AM Push Adapter and AM Generic Adapter, the software utilization push is separated from the software installation push.

- HP Network Automation (NA) 10.10 is supported by the Pull Topology from HP Network Automation integration.

- HP Systems Insight Manager (HP SIM) 7.4 is supported by the UCMDB-SIM integration.

- Added the HP Storage Operations Manager(SOM) Integration.

- Enhanced the Storage Essentials integration to collect the TapeLibrary information.

- Enhanced the ServiceNow integration job to avoid creating duplicated CIs in ServiceNow.

Other

- The **NetApp Filer by WebServices** job now supports discovery via NetApp Data ONTAP 8.x with ONTAP SDK 5.3.1.

- Added support for the AES256-CBC and AES256-CTR encryption ciphers for the SSH protocol. For details, see the *HP UCMDB Discovery and Integrations Content Guide - General Reference.*

- Enhanced the normalization rule engine by adding the **enableNormalizationRuleLabel** property in the **globalSettings.xml** file for specifying the label format of the output values in the normalization rules.

  If you want to display values in the label format instead of the default format that contains underscores for the normalized fields, do the following:

  a. Add **<property name="enableNormalizationRuleLabel">true</property>** in the **globalSettings.xml** file.

  b. Restart the probe.

- Added encryption parameters for the **Sybase** Database Type in the Generic DB Protocol (SQL) Parameters window (**Data Flow Management > Data Flow Probe Setup > Domains and Probes > DefaultDomain(Default) > Generic DB Protocol (SQL)**, then click ✳ or 🖉) as follows:

Parameter	Description
Encryption Method	○ **None**. No encryption method will be used. ○ **SSL**. For Oracle and Sybase only.
Trust Store File Path	Enter the full path to the SSL trust store file. To use the trust store file, do one of the following: ○ Enter the name (including the extension) and place the file in the following resources folder: **C:\hp\UCMDB\DataFlowProbe\runtime\ probeManager\discoveryResources**

Parameter	Description
	○ Insert the trust store file full path.
Trust Store Password	The SSL trust store password.

System Requirements

- CP 16 can be installed on:

  - UCMDB 10.11 CUP4 (or a later CUP)

  - UCMDB 10.20 (or with 10.20 CUP1)

  - UCMDB 10.21 (or with a CUP on top of 10.21)

- You must install UCMDB 10.11 CUP4 (or a later CUP), or 10.20 (or with 10.20 CUP1), or 10.21 (or with a CUP on top of 10.21) before installing CP 16.

Important Note:

- Before you deploy CP 16.00 on top of version 10.21, you must install version 10.21 on the UCMDB, UD, and CM servers, and deploy version 10.21 Data Flow Probes. Do not deploy Content Pack 16.00 while you are still updating the Data Flow Probes.

- Before you deploy CP 16.00 on top of version 10.20, you must install version 10.20 on the UCMDB, UD, and CM servers, and deploy version 10.20 Data Flow Probes. Do not deploy Content Pack 16.00 while you are still updating the Data Flow Probes.

- Before you deploy CP 16.00 on top of version 10.11, you must install 10.11 CUP 4 (or a later CUP) on the UCMDB, UD, and CM servers, and deploy version 10.11 Data Flow Probes. Do not deploy Content Pack 16.00 while you are still updating the Data Flow Probes.

For a complete list of system requirements, see the *HP Universal CMDB Support Matrix* document available from the UCMDB Online Help home page.

Content Pack Installation

The following procedure explains how to install Content Pack 16.00 for HP Universal CMDB.

Note: Rolling back the installation is not supported as it can lead to system inconsistencies. If you are upgrading from earlier versions of the content pack, it is strongly recommended to ensure that you have backed up your database.

1. **Prerequisites**

   ○ The UCMDB Server must be running when you install the Content Pack.

   ○ During installation, Setup may restart the Probe to load the new content jar file.

2. **Retrieve the Content Pack 16.00 ZIP file**

   The name of the installation file is **CP16_installation.zip**. This file is located on the HP Live Network Web site (https://hpln.hp.com/).

   The ZIP file contains the following resources:

   ○ Packages

   ○ Online help

   ○ The *HP Universal CMDB Discovery and Integration Content Guide* PDF files.

   ○ Permissions.pdf

3. **Extract packages from the Content Pack 16.00 ZIP file**

   Unpack the contents of the ZIP file to **C:\hp\UCMDB\UCMDBServer**.

4. **Back up existing packages**

   a. Launch a Web browser and enter the following address:

      http://<FQDN or IP address>:8080/jmx-console

      where **<FQDN or IP address>** is the machine on which UCMDB is installed. Log in using the JMX console authentication credentials.

   b. Click the UCMDB:service=Packaging Services link.

   c. In the JMX MBEAN View page, locate the following JMX function: **exportPackages ()**.

- In the **customerID** field, enter **1**.

- In the **packagesNames** field, leave this field empty to export all packages.

- In the **outputDir** field, enter the full path to a directory where UCMDB should place the backed-up packages, for example, **C:\hp\UCMDB\UCMDBServer\content\my_packages_ backup**. The directory is created automatically.

- In the **userOnly** field, select **False** to export all packages (and not only the user-created packages).

d. Click **Invoke**.

e. Verify that all relevant packages have been backed up to the folder mentioned in the previous step, and that there are no errors in the **mam.packaging.log** file, located in **hp\UCMDB\UCMDBServer\runtime\log**.

5. Install Content Pack 16.00

You can install the Content Pack from the HP Universal CMDB user interface or using the JMX Console.

From HP Universal CMDB:

a. Log in to the UCMDB.

b. Access the **Package Manager (Administration > Package Manager).**

c. On the toolbar, click the **Install Content Pack** button.

d. In the Install Content Pack dialog box that opens, select the required version of the Content Pack and click **Install**.

Using the UCMDB JMX Console:

a. Log in to the UCMDB JMX-Console (**<ucmdb-server>:8080/jmx-console**).

b. Open **UCMDB > Content Pack Services.**

c. Invoke **displayAvailableContentPackVersions** to see available versions of the Content Pack.

d. Enter the required version in the version field, and invoke **installContentPack**.

6. **Verify installation**

   Verify that there are no errors in the **mam.packaging.log** file, located in **hp\UCMDB\UCMDBServer\runtime\log**.

7. If you are installing the Content Pack on a High Availability system, copy all files from the following folder on the active UCMDB server to the same folder on the passive UCMDB server: **C:\hp\UCMDB\UCMDBServer\runtime\fcmdb\CodeBase**.

Discovery Knowledge Content

Starting from April 2015 to ensure more regular updates to the Normalization Rules and Software Application Index (SAI), the new Inventory Discovery Knowledge Packs are introduced on a monthly schedule.

Normalization Rules contain information to identify hardware devices in your environment. Normalization Rules determine the device's operating system, application, device family, and model. Then, the Normalization Rules Engine assigns a device type to your device model.

SAI files contain information to identify applications on a discovered node. Universal Discovery employs a number of installed software application recognition techniques, including file-based recognition, version data, and installed package rule-based recognition. The data that is required for this recognition to work is stored in the application library files (SAI).

For details about Normalization Rules and SAI Updates, see *HP UCMDB Inventory Discovery Knowledge Pack Release Notes* available at https://hpln.hp.com/node/11274/contentfiles/?dir=24326.

Recently released content that is currently included in this version of Universal Discovery can be found on the Universal Discovery Community (https://hpln.hp.com//group/universal-discovery/) website on the HP Live Network.

> **Note:** You need an HP Passport user name and password to log in to this site.

Accessing Content Pack Documentation

To read the latest versions of the relevant documents, access the following URLs:

- **<http://SERVER_NAME:PORT/ucmdb-ui>/docs/DDMContent.jsp** – Discovery and Integration Content Guide

- **<http://SERVER_NAME:PORT/ucmdb-ui>/docs/permissions.jsp** – the Permissions document

Known Issues, Limitations, and Workarounds

Content Pack Installation

PROBLEM: When installing the Content Pack 16 on UCMDB 10.11 CUP 4 (or a later CUP) or 10.20 (or with a CUP on top of 10.20), the **weblogic_j2eeapplication_db2.xml** file in the **ASM.zip** package fails to be deployed. Therefore, the Automated Service Modeling (ASM) solution that is based on the configuration file cannot create Consumer-Provider links between WebLogic and DB2 Database.

Workaround: None.

Universal Discovery - General

LIMITATION: CP 16 does not contain the latest MindTerm jar file (**mindterm-4.1.5.jar**), which is provided by UCMDB 10.20 and later versions.

Workaround: If you are using UCMDB 10.11 and want to upgrade your MindTerm from version 4.0beta6 to 4.1.5, go to the following location and download the hotfix: https://patch-hub.corp.hp.com/crypt-web/protected/viewContent.do?patchId=QCCR1H90627.

Universal Discovery - Content

PROBLEM: (**db2_ipse_only** trigger query only) The **DB2 Universal Database Connection by SQL** job returns "`No credentials defined for the triggered IP`" error. The triggered CIs that are triggered by the **db2_ipse_only** trigger query have no associated database instance, which is required to establish a connection. Then the job will get a database name from the DB2 credential. When no database name is defined in the DB2 credential, the job returns the error. (QCCR1H99802)

Workaround: When using the **db2_ipse_only** trigger query, it requires a database name in the DB2 credential. Make sure you define a database name in the DB2 credential.

PROBLEM: When running the **Mainframe topology by SNMP** job and the Mainframe by EView discovery jobs, the zOS and Mainframe Logical Partition CI types that are discovered get merged. (QCCR1H97603)

Workaround: Do not use the **Mainframe topology by SNMP** job when you run the Mainframe by EView discovery jobs. If you have run the Mainframe topology by SNMP discovery before installing the EView mainframe agent, HP recommends you to deactivate this discovery and delete any CIs that are created by this discovery.

LIMITATION: Child CIs are no longer included in reconciliation rules when considering identification for Business Applications. An optional identifier based on the ID (App_ID) can be used to uniquely identify each Business Application CI. Business Applications that are synced from external sources must have a unique name or ID in order to be included during data synchronization. Note that multiple Business Applications with the same name and no ID will not be synchronized.

Additional CI types for which child CIs are no longer included in reconciliation rules are Business Process, Business Service, CI Collection, Business Transaction Flow, and Dynamic Node Group. No optional identifier can be specified for these CI types.

Workaround: None.

LIMITATION: Data population into UCMDB using ServiceNow integration jobs fail because a package called "suds" is missing.

Workaround: To fix this issue, download and install a patch on the Data Flow Probe to supply the missing package as follows:

1. Download the **ServiceNow_pull_integration_patch.zip** file from the **<UCMDB_installation_ folder>\DataFlowProbe\runtime\probeManager\discoveryResources\ Service-Now-Pull** folder.

2. Extract the patch archive into the Data Flow Probe's installation folder. As a result, the **<Probe_ installation_folder>/jython/suds** folder is created, and two files (**<Probe_installation_ folder>/jython/httplib.py** and **<Probe_installation_folder>/jython/ urllib2.py** are updated. You do not need to restart the Data Flow Probe.

LIMITATION: The **vCloud Director by vCloud API** and **vCloud Director URL by vCloud API** jobs do not automatically discover VMware vCloud, because the **httpcore.jar** and **httpclient.jar** files no longer exist in the **<Probe>/content/lib** folder.

Workaround: To fix this issue, copy the **httpcore.jar** and **httpclient.jar** files from the **<Probe>/discoveryResources/http** folder to the **<Probe>/content/lib** folder.

FIPS Mode

LIMITATION: In FIPS mode, the **Host Connection by Shell** job does not work on the Red Hat Enterprise Linux 3 platform. (QCCR1H100743)

Workaround: None.

LIMITATION: When the FIPS mode is on, the Universal Discovery Agent cannot start on the non-FIPS compliant HP-UX HPPA platform. Therefore, the FIPS mode for the Universal Discovery Agent is turned off in order to run the Universal Discovery Agent on the HP-UX HPPA platform. (QCCR1H100684)

Workaround: None.

Inventory Discovery

PROBLEM: When setting the **enableSSHSharedHomeDir** parameter to **true**, running the agentless **Inventory Discovery by Scanner** job fails on Linux platforms. (QCCR1H100769)

Workaround: To run the agentless **Inventory Discovery by Scanner** job successfully on Linux platforms,

1. On your Linux instance, locate and open the **/etc/exports** file.

2. Add the **no_root_squash** parameter to the shared directory information.

   For example, if you have the following line in the file:

   ```
   /home  *(rw)

   where /home is shared directory, * means that everyone has access to it.
   ```

   Then, add **no_root_squash** into the line as follows:

   ```
   /home  *(rw,no_root_squash)
   ```

3. Save the change.

HP Integration

Problem: The number of the virtual CPUs is pushed into Asset Manager (AM). (QCCR1E116759)

Some customers may tailor Universal Discovery, add virtual CPUs as physical CPU CI, and then set the **Is Virtual** attribute to **True**. In this situation, the push adapter will count the number of both virtual and physical CPUs to set the **fCPUNumber** field in AM.
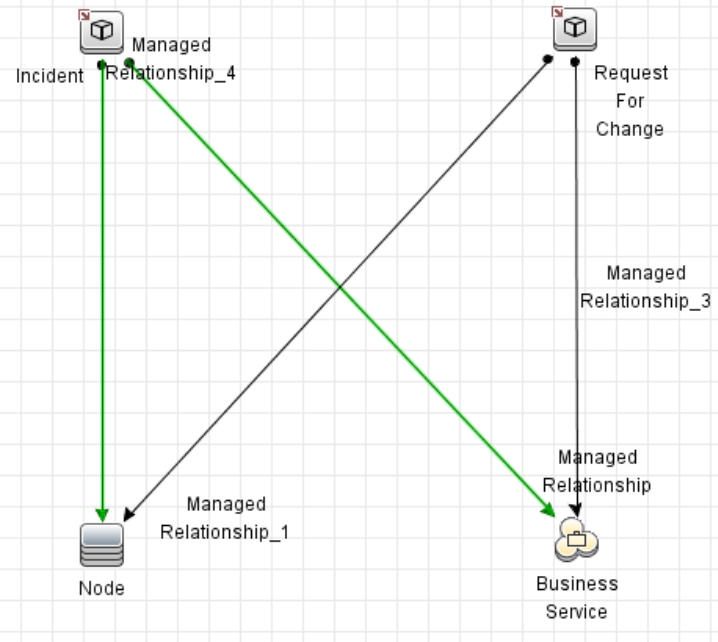
 Solution 1: To avoid counting virtual CPU in AM, add the **Is Virtual = False** condition in AM Computer/Node Push TQL.

Solution 2: Create a groovy function (for example, getPhysicalCoreCount) to count the CPU CIs whose **Is Virtual** is **False**.

> **Note:** The above item is added to *Troubleshooting and Limitations* in the *HP UCMDB Discovery and Integrations Content Guide - HP Integrations*.

Service Manager Integration Known Issues and Limitations

Global ID	Description	Workaround
QCCR1E119483	Infrastructure Service - Containment > [Application Service, Business Service] relationships cannot be correctly synchronized to UCMDB through population.	None
QCCR1E119671	NodeRole values are not merged when merging CIs during population.	None
QCCR1E119349	When two computers share the same value for the DiskDevice, FileSystem, Interface, or CPU attribute, after running a computer population job, one child CI is created and shared by the two computers. The expected behavior is that two separate child CIs are created for the two computers.	None
QCCR1E118141	Cannot disable a field that does not have a mapping entry configured in the federation configuration file (smFedConf.xml).	None
QCCR1E118095	UCMDB cannot get the results for a federation TQL query on two UCMDB CI types when each of the CI types has a relationship with two or more external CI types (such as Incident and RequetForChange). See the following figure for an example.	

Global ID	Description	Workaround
QCCR1E119726	Structure fields are not supported for pushing CIs from UCMDB to Service Manager.	None
QCCR1E119141	The 'Ignore on null' option is not supported for data push from UCMDB to Service Manager.	None
QCCR1E117760	The Visual Mapping tool is not disabled for some out-of-the-box XML mapping scripts in which the external class cannot be displayed in the External Class Model pane. Such out-of-the-box mapping scripts include: • CLIP Downtime Population mapping script • Relationship push and population mapping scripts • Federation mapping scripts	None
QCCR1E118871	If a TQL query has different exposed fields for the child CI types of the root, the Visual Mapping tool cannot display all of the exposed fields. As a result, you cannot configure mapping for fields that are not displayed by using a drag and drop in the Visual Mapping interface.	Configure mapping for the fields directly in the XML editor. Alternatively, split the query into multiple ones and then use the Visual Mapping tool.

Global ID	Description	Workaround
QCCR1E119778	Federation does not work on the Search CIs pane when the CI is related to Incident and Problem.	
QCCR1E119548	CI relationship deletions cannot be synchronized to UCMDB through population.	

Enhancement Requests

This release includes the following enhancement type fixes.

Global ID	Problem	Solution
QCCR1C20280	There is no support for the Citrix Xen virtualization technology.	Added support for the Citrix Xen discovery.
QCCR1H31391	Need full documentation for the **Host Resources and Applications by Shell** job; Document Section: **Network > Host Resources and Applications**.	Documentation about the **Host Resources and Applications by Shell** job already exists in the **Hosts and Resources** > **Host Resources and Applications Discovery** section in the *HP UCMDB Discovery and Integrations Content Guide - Discovery Modules*.
QCCR1H70060	IBM WebSphere Application Server version 8.0 is not supported.	Added support for IBM WebSphere Application Server version 8.0 via Shell and JMX.
QCCR1H75889	The primary IP address of each node in UCMDB cannot be discovered.	Provided the capability of discovering the primary IP address of the nodes using the scanner-based inventory by enhancing the **ParseEnrichedScanfile.py** script.
QCCR1H89594	Amazon Cloud services via web services using an HTTP proxy cannot be discovered.	Implemented the HTTP proxy setting to discover Amazon Cloud services via web services.
QCCR1H89597	The **IIS Applications by NTCMD or UDA** job uses the **adsutil.vbs** script to discover IIS web services, web sites and so on. When running this job, the following error message is returned: "failed to execute adsutil script". This is because the server has IIS 7 installed and the **adsutil.vbs** does not work on servers that have IIS 7 (or higher versions) installed without the IIS 6	Added support for IIS 7, IIS 7.5, IIS 8, and IIS 8.5. The **IIS Applications by NTCMD or UDA** job can use **AppCmd.exe** or PowerShell to perform the discovery.

Global ID	Problem	Solution
	management compatibility role.	
QCCR1H89828	Only one RunningSoftware instance is created by the **Host Resources by Shell** and **Host Applications by Shell** jobs regardless of more than one Sybase process that is discovered.	Now multiple Sybase instances can be mapped as RunningSoftware instances by the **Host Resources by Shell** and **Host Applications by Shell** jobs.
QCCR1H90477	IIS 8 discovery is not supported.	Discovery support for IIS 8 is now available.
QCCR1H91050	This is a request for a new attribute named **Emergency Bug Fix** for the Sybase DB CI Type. The Discovery Pattern should be modified to obtain the content for the new attribute.	Added a new attribute **Emergency Bug Fix** to the Sybase DB CI Type and report it by the **Sybase Database Connection by SQL** job.
QCCR1H91291	The following firewall types cannot be discovered: Fortinet FortiGate-3950B, Fortinet FortiGate-3140B and Juniper SRX5800.	Added the **Firewall Topology by SNMP** job to discover Fortinet and Juniper firewalls.
QCCR1H91292	The **SAP Solution Manager by SAP JCO** job cannot discover IDs for SAP CIs properly.	Enhanced the **SAP Solution Manager by SAP JCO** job so that the job can discover IDs for SAP CIs properly. For details, see the What's New section in the CP16 Release Notes.
QCCR1H92221	The **SAP Java Topology by HTTP** job is running for a long period of time. It should take into consideration the value of **IpServiceName** parameter of IPServiceEndPoint CI in order to avoid unneeded HTTP or HTTPS queries.	Optimized and improved the performance of the **SAP Java Topology by HTTP** job.
QCCR1H92526	For the **Host Applications by Shell** job: • The relation to HanaDatabase CIs is not discovered for SAP Web Dispatcher CIs. • The **Patch Level** and **Kernel Patch Level** attributes on SAP Web Dispatcher CIs are missing.	Enhanced the **Host Applications by Shell** job by: • Reporting a Client-Server link from SAP Web Dispatcher CIs to the remote IpServiceEndpoint CIs. • Adding new numeric attributes **patch_number** and **kernel_patch_level** on the SAP Web Dispatcher CI type. The values of the parameters must be numbers.
QCCR1H92880	This is a request to expand the support matrix for IIS discovery to include newer	Added support for IIS 7.5, IIS 8.0, and IIS 8.5.

Global ID	Problem	Solution
	versions of IIS: 7.5, 8.0, and 8.5.	
QCCR1H92930	The Storage Essentials integration does not collect information about Tape Libraries.	The Storage Essentials integration reports TapeLibrary CIs from the MVC_ TAPELIBRARYSUMMARYVW table.
QCCR1H93543	If the current user is not the superuser, the installation of an agent fails with the following error message without telling who the current user is: "Failed. You must be superuser to run this script."	If the current user is not the superuser, the installation of an agent fails with the following error message: "Failed. The current user is *<user name>*. You must be superuser to run this script."
QCCR1H94439	The **Host Applications by Shell** job does not report the detailed error message for the HANA plug-in.	A more detailed error message is now reported in the communication log, which provides the necessary information for troubleshooting.
QCCR1H94786	Cyrillic characters cannot be imported to UCMDB from a CSV file using the **Import from CSV** adapter.	Added a new parameter **fileEncoding** to specify the file encoding to ensure that Cyrillic characters can be handled properly.
QCCR1H94849	Layer2 Discovery is not successful on H3C switches in UCMDB 10.10 and UCMDB 10.11. This is because the **VLAN ports by SNMP** job does not discover H3C or HP Network devices.	Enhanced the **VLAN ports by SNMP** job to provide support for discovering H3C or HP Network devices. Therefore, Layer2 Connections are properly created between H3C or HP Network devices and the connected nodes.
QCCR1H95026	This is a request for an option for the **Host Applications by Shell** job to prevent creating IpServiceEndpoints without valid IpServiceNames.	Added a switch **ignoreUnnamedPorts** in the **Host Applications by Shell** and **Host Resources by Shell** jobs to filter out IpServiceEndpoints without valid IpServiceNames. The default value for **ignoreUnnamedPorts** is **false**.
QCCR1H95222	The **Inventory Discovery by Scanner** job should use the Universal Discovery Agent to run the scanner when both SSH and UDA CIs are available on a node.	Enhanced the **Inventory Discovery by Scanner** job by adding a new parameter **udaConnectionOrder**. The new parameter allows you to specify whether you want to use the UD Protocol first or last. The default value of the parameter is **first**.
QCCR1H95632	The **DB Connections by Shell** job cannot discover Oracle instances with ports.	Enhanced the **Host Applications by Shell** job to support discovery of Oracle database instances configured with non-standard ports without specifying each port in the **portnumbertoportname.xml**

Global ID	Problem	Solution
		file.
QCCR1H95694	The SAP ABAP Central Services CI type is connected to the wrong clusters and **application_ip** attribute.	Extended the EMC AutoStart plug-in to include reporting of Cluster Resource Group CIs in the **Host Applications by Shell** job. Also fixed the **application_ip** and **root_container** attributes of the SAP ABAP Central Services and SAP J2EE Central Services CIs.
QCCR1H96452	The out-of-the-box Enrichment rule **SoftwareElementDisplayLabelPopulator** changes the CI attribute **Container name** based on a criteria relationship. This can cause attributes **Container** and **Container name** of a CI to refer to different CIs in certain circumstances. Since one **Running Software** CI can be related to more than one Node (Windows and ClusterResourceGroup), the CI attribute **Container name** should be set using a Join relationship between Node and Running Software, with the following criteria: "The **Container** attribute of the **Running Software** CI should match the ID of the Node".	Implemented as proposed by replacing the link for the out-of-the-box Enrichment rule **SoftwareElementDisplayLabelPopulator** from composition to compound. Now both **Container** and **Container name** attributes of a CI can be updated accordingly.
QCCR1H96487	The **Host Connection by Shell** job times out on a Windows machine with an SSH server.	Added a new parameter **protocolConnectionOrder** for the **Host Connection by Shell** job in the **globalSetting.xml** file. This setting allows users to configure the order of all protocols.
QCCR1H96854	This is a request to enhance the **SAP ABAP Topology by SAP JCO** job to implement additional credential checking as the **SAP ABAP Connection by SAP JCO** job does, in case the connection using the credential that is stored in the **credentials_id** attribute fails.	Enhanced the **SAP ABAP Topology by SAP JCO** job to implement additional credential checking as the **SAP ABAP Connection by SAP JCO** job does.
QCCR1H97048	This is a request to separate software catalog updates (software signature updates) from content pack updates.	Starting from April 2015, the new Inventory Discovery Knowledge Packs are introduced on a monthly schedule. The Inventory Discovery Knowledge Packs include the following packages: ● NormalizationRules.zip

Global ID	Problem	Solution
		• Sai.zip • SAI-HTML-summary.zip Therefore, the above packages are removed from the Content Pack updates starting from CP 14 Update 5 (14.05). For details about Normalization Rules and Software Application Index (SAI) Updates, see *HP UCMDB Inventory Discovery Knowledge Pack Release Notes* available at https://hpln.hp.com/node/11274/contentfiles/?dir=24326.
QCCR1H97145	The discovery and inventory of Red Hat Enterprise Linux (RHEL) versions 6.6 and 7 are not supported.	Added support for the discovery and inventory of Red Hat Enterprise Linux (RHEL) versions 6.6 and 7.
QCCR1H97380	The **IBM Virtualization by Shell** job does not discover the **DiscoveredOSName** for LPARs of type VIO.	Now the **IBM Virtualization by Shell** job can discover the **DiscoveredOSName** for LPARs of type VIO.
QCCR1H97455	The **IBM Virtualization by Shell** job discovers all hosts as UNIX CIs.	Enhanced the **IBM Virtualization by Shell** job to discover AS400/iSeries/IBM i hosts as the as400_node (iSeries) CI Type. **Note:** The newly-reported as400_node CIs may result in duplication with the old UNIX CIs. The old UNIX CIs will exist in UCMDB until the aging mechanism takes effect. Or you can manually delete the old UNIX CIs.
QCCR1H97874	The values of normalized fields (such as NodeModel, Vendor, OsVendor, and OsDescription) are not in a user-friendly format.	Enhanced the normalization rule engine by adding the label format for the output values in the normalization rules. If you want to display values in the label format instead of the default format that contains underscores for the normalized fields, do the following: 1. Add **<property name="enableNormalizationRuleLabel"> true</property>** in the **globalSettings.xml** file.

Global ID	Problem	Solution
		2. Restart the probe.
QCCR1H97908	This is a request to support running inventory discovery jobs on Apple OS X 10.10.	Added support for Apple OS X 10.10.
QCCR1H99634	If the **Install UD Agent** job runs successfully before, the **Host Connection by Shell** job will always try to use UD Agent first, even if the **udaConnectionOrder** parameter is set to **last**.	Enhanced the **Host Connection by Shell** job by adding a new parameter **useLastSuccessConnection**. Setting the new parameter to **true** allows you to use the last success connection regardless the value of the **udaConnectionOrder** parameter. When the **useLastSuccessConnection** parameter is **false**, the value of the **udaConnectionOrder** parameter will then be considered.
QCCR1H100389	Need to add support for NetApp Data ONTAP 8.x with installed ONTAP SDK 5.3.1 in the *HP UCMDB Discovery and Integrations Content Guide - Discovery Modules*.	Added discovery support for NetApp Data ONTAP 8.x with installed ONTAP SDK 5.3.1 in the *HP UCMDB Discovery and Integrations Content Guide - Discovery Modules*.
Asset Manager (AM) Integration Enhancement Requests		
QCCR1E95458	After the firewall or router maintenance, an error occurs when trying to connect to the AM database through the UCMDB AM push adapter.	The AM Push Adapter will try to reconnect to the AM database after the connection is broken.
QCCR1E118186	When updating, the AM Push Adapter does not change the existing Model in the AM database. When creating, the AM Push Adapter uses the Model that is hardcoded in the script.	Now the update script and insert script that are defined in the attribute reconciliation of an entity with the follow-parent reconciliation rule can be executed.
QCCR1E120911	When using the AlwaysOn Failover Cluster Instances and when the failover takes place in the cluster, the AM Push Adapter fails to reconnect to the running DB instance.	Enhanced the adapter reconnection mechanism, so that the AM Push Adapter will try to reconnect when the AM database instance is restarted or network connection is broken.
QCCR1E122683	The following new attributes have been added to the UCMDB data for the Display Monitor CIs: • **monitor_Size_x** (Monitor Size Length) • **monitor_Size_y** (Monitor Size Width)	Mapped the attributes in the Display Monitor CIs to the following AM fields in the amMonitor table: • **dHorizontalSize** (corresponds to **monitor_Size_x**)

Global ID	Problem	Solution
	• **monitor_manufacture_year** (Monitor Year of Manufacture) These attributes need to be mapped in the AM Push Adapter so that the data makes its way into AM.	• **dVerticalSize** (corresponds to **monitor_Size_y**) • **lManufactYear** (corresponds to **monitor_manufacture_year**)
QCCR1H95003	Make the **Workgroup** attribute available for the Node CI in Universal Discovery to allow mapping to the same attribute when using the AM Adapter.	Changed the mapping for the **Workgroup** attribute to use the **nt_workgroup** attribute first as follows. ``` <target_mapping datatype="STRING" name="Workgroup" value= "AMPushFunctions.checkWindows (Root['nt_workgroup'], Root['primary_dns_name'], ClassModel, Root['os_family'])"/> ```
QCCR1H95363	About the **OSServiceLevel** field, the default mapping in the AM Push Adapter is as follows: ``` <target_mapping name="OSServiceLevel" datatype="STRING" value="Root ['discovered_os_version']"/> ``` The **discovered_os_version** attribute of the Node does not show the Service Pack of the OS but shows the version of the OS. However, DDMI had a specific field called **hwOSData.hwOSServiceLevel** for the Service Pack of the OS. The following requests are needed to be implemented: • The scan file attribute Service Level can be properly mapped to a new attribute in the Node CI. • The new attribute can be mapped to the **OSServiceLevel** field in the AM Push Adapter.	Changed the mappings for the **OSServiceLevel** and **OSBuildNumber** fields to use the new attributes in the Node CI as follows: ``` <target_mapping datatype= "STRING" name="OSBuildNumber" value= "AMPushFunctions.checkWindows (Root['hostosrelease'], '',ClassModel,Root['os_ family'])"/> ``` ``` <target_mapping datatype= "STRING" name="OSServiceLevel" value= "AMPushFunctions.checkWindows (Root['nt_servicepack'],Root ['host_ osrelease'],ClassModel, Root['os_family'])"/> ```

Fixed Defects for Content Pack 16.00

The following table lists the defects that were fixed in HP UCMDB Content Pack 16.00.

Global ID	Problem	Solution
QCCR1E99989	Comparing with Service Manager (SM), some enum types of incident status and problem status in UCMDB are missing.	• Added **pending_evidence** in the **incident_status_enum.xml** file. • Added **categorize** and **abandoned** in the **problem_status_enum.xml** file.
QCCR1H30822 QCCR1H81808	No documentation about Sybase Discovery is found in the Universal Discovery Content Guide.	Added documentation about Sybase Discovery both in the online help and in the *HP UCMDB Discovery and Integrations Content Guide - Discovery Modules*.
QCCR1H30835	Discovery Samples jobs are not documented.	Added documentation about the **Dynamic Credential Sample** job both in the online help and in the *HP UCMDB Discovery and Integrations Content Guide - Discovery Modules*.
QCCR1H75912	Documentation about the Basic Web Server Discovery is missing in the online help and in the Universal Discovery Content Guide.	Added documentation about the Basic Web Server Discovery both in the online help and in the *HP UCMDB Discovery and Integrations Content Guide - Discovery Modules*.
QCCR1H86598	For Unix targets, the **application_port** attribute for the SAP Message Server CI type is not filled by the **Host Applications by Shell** job.	The **application_port** attribute for the SAP Message Server CI type now is filled in the plug-in.
QCCR1H88116	The **Network Connectivity Data Analyzer** job does not create the ClientServer link between the client hostOSh and the server IpServiceEndpoint if the lsof is not available on the target server.	The ClientServer link is created between the client hostOSh and the server IpServiceEndpoint when no client process is found.
QCCR1H89426	The Aperture Vista integration job fails to populate UCMDB when the **device_name** and **rack_name** attributes have the following values on the data source:	The Aperture Vista integration job now works successfully.

Global ID	Problem	Solution
	``device_serial_number:'TBD'
device_serial_number: 'NA'
device_serial_number: 'N/A'
device_serial_number: 'NEEDED'
device_serial_number:'UNKNOWN'
device_serial_number:
IS NOT NULL
device_name:'NOT DISPLAYED'
rack_name: IS NOT NULL```	
QCCR1H89873	The following two propterties of the **Pull from ServiceNow** adapter are not marked as **Mandatory Properties** in the UCMDB user interface: **Credentials ID** and **ServiceNow Instance URL**.	Marked **Credentials ID** and **ServiceNow Instance URL** as **Mandatory Properties** in the UCMDB user interface.
QCCR1H90630	The **DB2 Topology by SQL** job fails with the "Cannot invoke trigger" error. This is because UCMDB retrieves IP addresses from the **application_ip** attribute of DB2 Database and these IP addresses are not within the probe range.	Fixed the issue by overriding the default probe selection for the **DB2 Topology by SQL** job.
QCCR1H90851	There is no place to configure JVM-related parameters for VMware-related jobs.	Fixed the issue by adding the **remoteJVMArgs** parameter to configure JVM-related parameters for VMware-related jobs.
QCCR1H91309	While using the SAP activity, the required JAR files are downloaded in a wrong path, and then the following error message is returned: "SAP drivers are missing".	Fixed the issue by changing the target path of JAR files properly in the **SAPWizard.xml** file.
QCCR1H92186	When integrating UCMDB 10.10 with BMC Atrium 10.10, the Atrium push adapter is deployed properly, but the **AtriumPushAdapter** folder is not automatically created. According to the *HP UCMDB Universal Discovery Content Guide - Third Party Integrations*, the **AtriumPushAdapter** folder should be automatically created.	• Deleted the following information in the *HP UCMDB Universal Discovery Content Guide - Third Party Integrations*: The directory **C:\hp\UCMDB\DataFlowProbe \runtime\probeManager\ discoveryResources\ AtriumPushAdapter** is automatically created once the **AtriumPushAdapter** package is deployed on the UCMDB Server. If it is not present, ensure that the

Global ID	Problem	Solution
		AtriumPushAdapter package has been correctly deployed on the UCMDB Server.
		• Added the following information in the *HP UCMDB Universal Discovery Content Guide- Third Party Integrations*:
		Create the **AtriumPushAdapter** folder in the following directory on the Data Flow Probe server: **C:\hp\UCMDB\DataFlowProbe \runtime\probeManager \discoveryResources**.
QCCR1H92304	Solaris LDOM hosts are merged while simply running the **Host Connection by Shell** job. This is because the serial number attribute is discovered as unknown for some virtual Solaris machines.	Fixed the issue by leaving the serial number attribute empty if the attribute is discovered as unknown.
QCCR1H93650	The **Inventory Discovery by Scanner** job does not stop when connecting to a DDMI agent.	The **Inventory Discovery by Scanner** job now stops when connecting to a DDMI agent.
QCCR1H94097	The NNMi integration job causes duplicate hosts if MAC addresses change.	Fixed the issue by downgrading MAC addresses in the interface reconciliation rule.
QCCR1H94105	• The SAP System CI gets duplicated. • A Database CI gets related to more than one SAP System CIs. This is because the **Host Applications by Shell** and **SAP ABAP Topology by SAP JCO** jobs report the relationship between SAP ABAP Application Server and Database according to the default profile.	Only the **SAP ABAP Topology by SAP JCO** job that is based on the real-time data reports database links.
QCCR1H94654	The **VMware vCenter Topology by VIM** job fails to read IP addresses for the VMware ESX Servers from vCenter.	The **VMware vCenter Topology by VIM** job can read IP addresses for the ESX Servers from vCenter.
QCCR1H95443	Inconsistent results are returned by the **DB Connections by Shell** job if WMI is enabled.	The **DB Connections by Shell** job returns the consistent result regardless of whether WMI is enabled or not.

Global ID	Problem	Solution
QCCR1H95979	The **Host Applications by Shell** job fails when running the **nslookup** command on the remote host with a canonical name returned.	The **Host Applications by Shell** job now runs successfully when running the **nslookup** command on the remote host.
QCCR1H96181	The **LPAR Resources by EView** job causes the merge issue for zOS CIs.	Now the **LPAR Resources by EView** job runs successfully without incorrectly merging zOS CIs.
QCCR1H96858	HP Systems Insight Manager (SIM) Integration fails because of the empty instance name.	Now HP SIM Integration works successfully with the empty instance name.
QCCR1H96896	SAP-related jobs wrongly merge two SAP System CIs with the same name.	Fixed the issue by setting the **data_note** attribute value on SAP System CIs in the following jobs: • **SAP ABAP Connection by SAP JCO** • **SAP ABAP Topology by SAP JCO** • **SAP Java Topology by HTTP** • **SAP Java Topology by SAP JMX** • **SAP Java Topology by WebServices**
QCCR1H97195	The **IBM LPAR And VIO Server Topology by Shell** job fails to discover CPUs on IBM VIO Servers.	The **IBM LPAR And VIO Server Topology by Shell** job now discovers CPUs successfully without warning messages.
QCCR1H97196	The Java virtual machine (JVM) crashes on the Data Flow Probe side because of the **Host Resources by WMI** job.	The JVM now works properly on the Data Flow Probe.
QCCR1H97265	HP Systems Insight Manager (SIM) Integration jobs fails with the following error message: "AppilogDataException: Could not find domain: (SIM node name): operation".	Fixed the issue by reporting the proper hostKey when the node does not have a valid or unique IP address.
QCCR1H97340	The **Release** and **Patch Number** attributes are not discovered for the SAP Message Server and SAP Enqueue Server CI types by the **Host Applications by Shell** job.	Fixed the issue by setting the **LD_LIBRARY_PATH** environment variable before getting the version information.
QCCR1H97502	The following error message is returned by the **VMware vCenter Topology by VIM** Job:	The **VMware vCenter Topology by VIM** job now runs without such

Global ID	Problem	Solution
	"AttributeError: 'NoneType' object has no attribute 'freeSpace'".	AttributeError.
QCCR1H97511	Cisco Nexus 5000 and 7000 series switches cannot be discovered properly.	Cisco Nexus 5000 and 7000 series switches can now be discovered properly.
QCCR1H97516	Some attributes that are discovered by different discovery patterns have different values. The **Inventory Discovery by Scanner** job returns the CPU Vendor value as **Sun_Microsystems**. However, the **Host Resources by Shell** job returns **Sun Microsystems**.	Fixed the issue by using **Sun_Microsystems** instead of **Sun Microsystems**.
QCCR1H97569	Some Samsung network printers are recognized as nodes by the out-of-the-box discovery. This is because the **NodeModel** attribute of samsung_sl_m3825dw and samsung_ml_451x are not populated by the **Host Connection by SNMP** job.	Added new normalization rules for samsung_sl_m3825dw and samsung_ml_451x to discover the **NodeModel** attribute properly.
QCCR1H97592	The **Host Applications by Shell** job reports a wrong listening port number on Microsoft SQL Server AlwaysOn technologies.	The **Host Applications by Shell** job now reports a correct listening port number on Microsoft SQL Server AlwaysOn technologies.
QCCR1H97700	ARIS Integration documentation does not describe the **runInSeparateProcess** setting and state what the recommended value is.	Added documentation about the **runInSeparateProcess** setting for the ARIS Integration. For details, see the *HP UCMDB Universal Discovery Content Guide - Third Party Integrations*.
QCCR1H97705	The **MSSQL Server Connection by SQL** job retrieves wrong ports when discovering MSSQL instances using the MicrosoftSQLServerNTLM credential.	Fixed the issue by adding a new job parameter **handleSQLBrowserMappings** to retrieve the real port from the query result.
QCCR1H97714	The **DB Connections by Shell** job only reports the last port that is discovered if a DB instance is listening on more than one port.	The **DB Connections by Shell** job can now report all listening ports.
QCCR1H97719	The **DB2 Universal Database Connection by SQL** job reports the "Connection failed" message as a warning message.	The **DB2 Universal Database Connection by SQL** job now reports the "Connection failed" message as an error message.

Global ID	Problem	Solution
QCCR1H97727	Duplicate SQL Server CIs are generated by the **Host Applications by Shell** and **MSSQL Server Connection by SQL** jobs. These duplicate SQL Server CIs are not merged because of different names. The **Host Applications by Shell** job discovers correct SQL Server names by using registry, but the **MSSQL Server Connection by SQL** job uses a different method that does not necessarily provide the up-to-date name.	The **MSSQL Server Connection by SQL** job can now get the correct SQL Server CI with the correct name. **Note:** The old SQL Server CI with the wrong name cannot be automatically deleted from UCMDB. The duplicate SQL Server CIs will exist in UCMDB until the aging mechanism takes effect.
QCCR1H97731	Reconciliation errors are returned because the **Host Connection by Shell** job reports incomplete nodes for the Client IP addresses.	The **Host Connection by Shell** job now reports complete nodes for the Client IP addresses.
QCCR1H97748	The discovered **last_use** date for software is not correct.	Added reporting of the last used data from the software utilization data. For details, see the What's New section.
QCCR1H97795	When the **SAP ABAP Connection by SAP JCO** job cannot gather information for the target system, the "IndexOutOfBoundsException" error is returned.	Fixed the issue by showing the proper message in the UCMDB user interface and detailed log information in the communication log.
QCCR1H97801	By default, the NNMi integration discovers physical ports and VLANs, which may cause heavy workloads for this integration job.	By default, the NNMi integration does not discover physical ports and VLANs. Changed the default parameter for **discoverPhysicalPorts** and **discoverVlans** to **False**.
QCCR1H97814	The NNMi integration job from UCMDB populates the **host_nnm_uid** field incorrectly.	The NNMi integration job now populates the **host_nnm_uid** field correctly.
QCCR1H97818	The **Host Applications by Shell** job does not report the relationship between SAP System and SAP ABAP Application Server.	The **Host Applications by Shell** job now reports the relationship between SAP System and SAP ABAP Application Server.
QCCR1H97823	The HP Network Automation 9.22 integration job in UCMDB runs out of memory.	Fixed the issue by adding the **remoteJVMArgs** parameter to the HP Network Automation integration adapter.

Global ID	Problem	Solution
QCCR1H97827	Incorrect relations are created during the reconciliation of the management ports and losk ports of NetApp.	Reconciliation of the management ports and losk ports of NetApp now works properly.
QCCR1H97830	All HANA-related processes are not related only to their dedicated HANA instances.	Fixed the issue by modifying the HANA Application Signature so that it can discover correct process relations.
QCCR1H97838	Duplicate SAP System CIs that are created by the **Host Applications by Shell** job are not merged.	Fixed the issue by updating the identification rules for SAP System CIs.
QCCR1H97858	Most UserSoftwareUtilization CIs are not pushed into Asset Manager after running an AM Data Push. This is because the same user name exists in both lowercase and uppercase on Windows.	Fixed the issue by forcing the user name to be capitalized in the **Inventory Discovery by Scanner** job.
QCCR1H97863	The **Host Connection by Shell** job populates inconsistent attributes (such as DiscoveredOsVendor) for HP-UX and HP NonStop.	The **Host Connection by Shell** job now populates consistent attributes for HP-UX and HP NonStop.
QCCR1H97902	The SAPLOCALHOST parameter cannot be found in the SapInstanceProfile.	Fixed the issue by resetting the **Application IP** and **Container** attributes for the SAP ABAP Application Server CI.
QCCR1H97903	The **Application IP** and **Container** attributes for the SAP ABAP Central Services CI type are incorrect.	Fixed the issue by resetting the **Application IP** and **Container** attributes for the SAP ABAP Application Server CI.
QCCR1H97915	The **MQ by Shell** job discovers WebSphere MQ Queue Managers that do not run on the triggered node and connects them to the local MQ Instance.	Fixed the issue by changing the command to use the remote QM name instead of the local QM name to get the remote topology information.
QCCR1H97959	SAP ABAP Central Services that are discovered by the **SAP ABAP Topology by SAP JCO** job relates to wrong SAP Systems.	The **SAP ABAP Topology by SAP JCO** job can now discover the correct and current SAP Central Services, SID and host machine even in a highly dynamic environment.
QCCR1H97971	Users cannot click the **Content Help** button in the **Accurate Dependency Mapping** module > **Discovery Job Details** pane.	The **Content Help** button is valid and users can click this button to show the related Content Help document.
QCCR1H97989	The **MQ by Shell** job fails with the following error "ClassCastException:	The **MQ by Shell** job now runs properly.

Global ID	Problem	Solution
	java.lang.ClassCastException".	
QCCR1H98009	The **Host Applications by Shell** job does not discover IpServiceEndpoint and TCP communication on AIX Servers.	The **Host Applications by Shell** job now runs properly.
QCCR1H98029	The **Host Connection by SNMP** job cannot discover HP iLO4 remote management cards.	Fixed the issue by checking the IP address before creating IpAddress CIs. If the IP address is an invalid IP address, a warning message is displayed in the communication log.
QCCR1H98076	Consumer-provider links do not affect the impact analysis.	Now CIs that are connected by consumer-provider links are considered as potentially impacted.
QCCR1H98079	The **Host Resources by Shell** job reports exceptions when processing the DB2 plug-in. The discovery works only in the English language instead of all languages.	Fixed the issue by changing the regex pattern to support all language output.
QCCR1H98097	The default permission of the Universal Discovery agent option file **aioptionrc** should not be set to 666.	Changed the default permission of the **aioptionrc** file to 644.
QCCR1H98101	The **Solaris Zones by TTY** job does not fill the **DiscoveredOSName** field.	The **Solaris Zones by TTY** job now fills the **DiscoveredOSName** field with the **SunOs** value.
QCCR1H98106	Both SSH and UDA CIs are found created, causing the **Inventory Discovery by Scanner** job to use SSH instead of UDA.	Fixed the issue by adding a new parameter **udaConnectionOrder** to the **Inventory Discovery by Scanner** job, which allows you to specify whether you want to use the UD Protocol first or last. The default value of the parameter is **first**.
QCCR1H98109	The **Inventory Discovery by Scanner** job does not have a **udaConnectionOrder** option as in the **Host Connection by Shell** job.	Enhanced the **Inventory Discovery by Scanner** job by adding a new parameter **udaConnectionOrder**. The new parameter allows you to specify whether you want to use the UD Protocol first or last. The default value of the parameter is **first**.
QCCR1H98162	The exclusive local zone is not discovered by the **Solaris Zones by TTY** job.	Now the **Solaris Zones by TTY** job can handle both the exclusive and the shared local zone properly.
QCCR1H98212	After upgrading the Universal Discovery	Now the **JEE JBoss by Shell** job works

Global ID	Problem	Solution
	from Content Pack 12 to Content Pack 14, the **JEE JBoss by Shell** job fails with the "java.lang.NullPointerException" error.	properly.
QCCR1H98414	The **IBM Virtualization by Shell** and **Host Connection by Shell** jobs switch the content of the **DiscoveredOSVersion** attribute between the version of the HMC software and the version of the Linux operating system.	The **IBM Virtualization by Shell** job now fills the **DiscoveredOSVersion** attribute with the output of **uname -r**.
QCCR1H98508	The **Host Applications by WMI** job does not discover the operating system's hotfix information for Windows Server 2012 or 2012 R2.	The **Host Applications by WMI** job can now discover the operating system's hotfix information for Windows Server 2012 or 2012 R2.
QCCR1H98518	The Host Connection by SNMP job does not discover the serial number for HP C7000 Blade servers.	Fixed the issue by modifying the normalization rule for HP C7000 Blade servers so that the serial number can be discovered properly by the **Host Connection by SNMP** job.
QCCR1H98520	The **Host Connection by SNMP** job does not discover the serial number for tape library backup unit of Scalar i500 devices.	Fixed the issue by adding a new normalization rule for tape library backup unit of Scalar i500 devices so that the serial number can be discovered properly by the **Host Connection by SNMP** job.
QCCR1H98534	The CPU **core_number** attribute is incorrectly populated by the **Inventory Discovery by Scanner** job.	The core number of each CPU now is populated correctly by the **Inventory Discovery by Scanner** job.
QCCR1H98552	The **Host Resources by WMI** and **Host Applications by WMI** jobs cause probes to stop.	Fixed the issue so that probes will not crash.
QCCR1H98593	The serial number is not discovered for Infoblox devices using SNMP.	- Added the generic normalization rule for Infoblox so that the serial number can be discovered properly. - Added new rules for Infoblox TE-1410-NS1MSGRID-AC and TE-2220-NS1MSGRID-AC so that the node model can be discovered properly.
QCCR1H98623	The **Host Connection by SNMP** job does not	Fixed the issue by adding new rules to

Global ID	Problem	Solution
	discover the serial number from the private object identifier (OID) for the Cisco IOS devices, Lexmark printers, RICOH printers and Samsung printers.	the NormalizationRules package to output the proper **serial_number_oid** for Cisco IOS devices, Lexmark printers, RICOH printers and Samsung printers.
QCCR1H98632	Running the **uname** command on Windows may terminate the job immediately.	Fixed the issue by handling the timeout exception properly.
QCCR1H98638	The serial number is not discovered for Cisco devices using SNMP.	Fixed the issue by adding a new normalization rule for Cisco IOS devices to discover the serial number properly.
QCCR1H98659	The **JEE WebSphere by Shell** job fails with the "UnicodeEncodeError".	The **JEE WebSphere by Shell** job now runs successfully.
QCCR1H98700	An empty CI is created by the ServiceNow push integration because of the incorrect sample mapping file.	Fixed the issue by changing the sample mapping file.
QCCR1H98727	The **Layer2 Topology by Shell** job cannot discover all VLAN data on a large environment where Nexus devices have more than 400 interfaces. The discovered data is reported as insufficient for identification and reconciliation.	Fixed the issue by aligning the port name (short) with the interface name (full).
QCCR1H98738	The topology reported by the **MQ by Shell** job cannot be properly reconciled. The results contain ignored CIs because of multiple matches and contradictions encountered during the merge process.	Now the **MQ by Shell** job works properly.
QCCR1H98754	When using the **Host Connection by Shell** job in the NAT environment, the Shell object is not created because the trigger IP address is absent from the list of IP addresses assigned to the host (the trigger IP address is treated as a virtual IP address).	Fixed the issue by adding a new configuration file **NATIpAddress.xml** to store NAT IP addresses. The **NATIpAddress.xml** file supports the following two tags: • <Ip>, you can add a single IP address. • <IpRange>, you can add a valid IP range (two IP addresses separated with a hyphen). Within the **NATIpAddress.xml** file, you can define an IP address list. If the

Global ID	Problem	Solution
		discovered IP address is in this list, the Shell object will be created even when the trigger IP address is not assigned to the host being discovered. A sample placeholder file is included.
QCCR1H98764	Oracle database instances whose names include "+", such as +ABC, cannot be discovered by the **Host Applications by Shell** job.	Fixed the issue by changing the **applicationsignatures.xml** file.
QCCR1H98766	The **VMware ESX Topology by VIM** job does not discover and populate the **DiscoveredOSName** attribute for each VM in the farm in the absence OS credentials for the hosted VMs.	Fixed the issue by adding a new job parameter **reportDiscoveredOsName**. The **VMware vCenter Topology by VIM** job fills in the **DiscoveredOsName** attribute of the Node CIT in case the **reportDiscoveredOsName** parameter is set to true. By default the **reportDiscoveredOsName** parameter is set to **false**. **Note:** HP highly recommends not to enable the **reportDiscoveredOsName** parameter, as duplicated OS names of VM instances will be reported.
QCCR1H98800	When initiating the discovery, Universal Discovery Agent crashes because the public certificate files are missing.	Universal Discovery Agent will return an error message and stop if the public certificate files are not in place.
QCCR1H98801	The **JEE WebSphere by Shell** job fails with warning messages because a valid link is missing.	Fixed the issue by adding the dependency link between **jmsserver** and **messaging_server** in the class model.
QCCR1H98807	The ServiceNow Pull Adapter is designed to pull records with a Window size of 1000. The default maximum for ServiceNow is 250.	Added the chunk size parameter so that you can define the step size.
QCCR1H98810	The serial number of HP BladeSystem VC-FC-MPX is not discovered by the **Host Connection by Shell** job. The node model and vendor of emc_dd990	Modified the existing normalization rules to output the **serial_number_oid** for HP BladeSystem VC-FC-MPX. Added a new normalization rule for

Global ID	Problem	Solution
	are not discovered by the **Host Connection by Shell** job.	emc_dd990 to output the **NodeModel** and **Vendor** correctly.
QCCR1H98883	Some attributes that are discovered by different discovery patterns have different values. The **Host Connection by Shell** job discovers a node boot time that is related to the local time, but the **VMware ESX Topology by VIM** job reports a different node boot time that is related to the remote ESX server time for the same host.	Added a new parameter **reportLastBootTime** for the **VMware ESX Topology by VIM** job. By default the **reportLastBootTime** parameter is set to true, which means the last reboot time of the VMs is reported. If you set the **reportLastBootTime** parameter to false, the **VMware ESX Topology by VIM** job will not update the attribute.
QCCR1H98932	The ServiceNow pull integration does not recognize a newly-added attribute.	Now newly-added attributes can be recognized by the ServiceNow pull integration adapter.
QCCR1H98967	The **Host Applications by Shell** and **Inventory Discovery by Scanner** jobs return two different values of the memory size for a node CI.	The **Host Applications by Shell** and **Inventory Discovery by Scanner** jobs return the same value of the memory size for a node CI.
QCCR1H98971	The Application Signature for the MaxDB does not include the **<clustered-application/>** tag.	Fixed the issue by updating the Application Signature for MaxDB in order to include the **<clustered-application/>** tag.
QCCR1H99036	The **VLANs by SNMP** job fails to discover all Cisco Nexus 7000 series switches without clear error messages about the missing port for the specific VLAN.	Displayed the error message about the missing port for the specific VLAN in the communication log.
QCCR1H99039	The HP-UX CPU core number is not discovered correctly by HP-UX inventory scanners in some cases.	The HP-UX CPU core number can now be discovered correctly by HP-UX inventory scanners.
QCCR1H99042	NNMi integration in the Full mode sends a lot of repeated data, which causes performance issues.	Fixed the issue by avoiding reporting repeated cards on all nodes.
QCCR1H99066	Integrating UCMDB 10.11 with HP SIM 7.2 is not successful because the web-service call fails.	HP SIM integration can run properly now.
QCCR1H99156	A warning message is returned by the **Host Applications by Shell** job because of the wrong usage of the **nslookup** command.	The **nslookup** command is used correctly now.

Global ID	Problem	Solution
QCCR1H99162	The **JEE WebSphere by Shell** job cannot find WebSphere processes on HP-UX.	The **JEE WebSphere by Shell** job can now find WebSphere processes properly on HP-UX.
QCCR1H99170	In CP 12, when the **Oracle Database Connection by SQL** job encountered an account error such as "Account Locked", it is reported in the error message in detail. However, in CP 14, this useful error message is replaced by the following generic error message: "Cannot connect to database. See logs for more details".	Displayed the detailed error message in the UCMDB user interface as in CP 12.
QCCR1H99177	The scanner running on HP-UX does not close the opened files properly during the disk scan, and then the number of the opened files reaches the Operating System limitation.	Scanner closes the opened files in a timely manner.
QCCR1H99235	Only the first credential for SSH is used in the UNIX discovery.	Until the correct credential is selected for use, the job continues trying credentials even though it detects the "Connection refused" error.
QCCR1H99298	The EMC Control Center 6.1 integration fails with the following error message: "Error processing results of discovery adapter, details Task DS_EMC Control Center_EMC Control Center: received object of class 'fcport' has no required attribute 'port_displayName'".	The EMC Control Center 6.1 integration works successfully.
QCCR1H99339	The latest Windows x64 (64-bit) Universal Discovery scanners (10.20.000 build 384) no longer include the hwBiosData section. This section is quite critical because it includes important data such as the serial number and hardware make and model. The previous (10.10.000 build 322) Windows x64 scanners and Windows x86 (32-bit) 10.20 scanners are not impacted.	Fixed the issue by building the Windows x64 scanners correctly.
QCCR1H99341	The TQL definition for the Rulebase Support report is defined with Net Device and Computer instead of node.	Changed the TQL definition to use the node CIT instead of Net Device and Computer.
QCCR1H99395	The probe caching mechanism does not work properly with the **JEE WebSphere by Shell** job.	Now the probe caching mechanism works properly with the **JEE WebSphere by Shell** job.

Global ID	Problem	Solution
QCCR1H99429	The **Host Resources by Shell** and **Host Applications by Shell** jobs using the Universal Discovery Protocol fails with warning messages when the **discoverFcHBAs** parameter is set to **True**.	Fixed the issue by adding the UDA protocol support. Now the **Host Resources by Shell** and **Host Applications by Shell** jobs run successfully using the Universal Discovery Protocol.
QCCR1H99530	The topology of VMware is defined to give relationships and dependency as follows: "VMware VirtualCenter" -- Manage --> "VMware Datacenter" -- Composition --> "VMware Cluster". Because there is no direct relationship between VMware VirtualCenter and VMware Cluster, the reports show all clusters under selected VM as VM Datacenter in the middle that also includes all clusters.	Added a direct relationship between VMware Virtual Center and VMware Cluster. Newly reported topology part is "VMware VirtualCenter" -- Manage --> "VMware Cluster".
QCCR1H99537	When scanners try to store a file that is not accessible, it may enter into an infinite loop.	When trying to store a file that is not accessible, scanners will skip it and continue.
QCCR1H99609	OsDescription and OsVendor are not populated for Cisco NX-OS Version 6.2.2 and Cisco Adaptive Security Appliance Version 9.0(1) and 9.1(2).	Added new normalization rules for Cisco NX-OS Version 6.2.2 and Cisco Adaptive Security Appliance Version 9.0(1) and 9.1(2).
QCCR1H99700	After running the **JEE JBoss by Shell** job, the IP service endpoints are linked to the Localhost Nodes instead of to the correct Nodes. The root cause is that the **${jboss.bind.address}** is not properly configured.	Now the IP service endpoints are linked to the correct Nodes.
QCCR1H99758	After rerunning the **Host Connection by Shell** job, the **DnsServers** attribute keeps the old value instead of updating with the new discovered value.	Now the **DnsServers** attribute updates properly.
QCCR1H99800	The following attributes that are requested for the Display Monitor CI cannot be found: Monitor Size Length, Monitor Size Width, and Monitor Year of Manufacture.	Fixed the issue by adding three new attributes (**monitor_size_x, monitor_size_y, monitor_manufacture_year**) to the Display Monitor CI. Also added the mapping in the scanFile process.
QCCR1H99886	The **DiscoveredModel** attribute information that is discovered by the **Host**	Now the **Host Connection by Shell** and **Host Applications by Shell** jobs

Global ID	Problem	Solution
	Connection by Shell and **Host Applications by Shell** jobs is incorrect.	show the correct value for the **DiscoveredModel** attribute.
QCCR1H99911	The upgrade of the Universal Discovery Agent fails and the MSI log shows the following error message: "Error 1327. Invalid Drive: C:\".	Now the Universal Discovery Agent can be installed and uninstalled successfully even without the C:\ drive.
QCCR1H100020	The **Host Connection by Shell** job fails to run on Cisco Nexus switches because of small timeout values.	Now the default value for the parameter Timeout in the Nexus discovery is 50000 milliseconds (50 seconds).
QCCR1H100040	PostgreSQL database (version 9.3) is not detected by the **Host Resources by Shell** job with the application signature mechanism.	PostgreSQL database (version 9.3) can be discovered successfully.
QCCR1H100054	The value in the **hwDiskTotalPhysicalSizeMB** tag is missing from the scan files.	The total physical size now is collected successfully.
QCCR1H100230	The CPU type on Solaris 11 is reported as "Unknown 3400 and 3600MHz (Oraclecorporation)".	The CPU type now is reported correctly.
QCCR1H100240	The **Hyper-V Topology by Shell** job fails with the following error message: "NTCMD: внутренняя ошибка. Подробности: Failed getting details of Hyper-V host". This is because the operating system is installed with the Russian locale and the engine does not support Russian.	Fixed the issue by adding the extra language configuration file to support the Russian language.
QCCR1H100338	No detailed explanation of the **discoverProcesses** and **filterP2PProcessByName** parameters for the **Host Resources by Shell** and **Host Applications by Shell** jobs is found in the Universal Discovery Content Guide.	Added detailed explanation of the **discoverProcesses** and **filterP2PProcessByName** parameters for the **Host Resources by Shell** and **Host Applications by Shell** jobs both in the online help and in the *HP UCMDB Discovery and Integrations Content Guide - Discovery Modules*.
QCCR1H100674	Universal Discovery 10.20 sets incorrect values in the **hwHostOS** field.	Now Universal Discovery 10.20 sets correct values in the **hwHostOS** field.
QCCR1H100686	The **IIS Applications by NTCMD or UDA** job fails to retrieve the case-sensitive system directory when the system directory has	Now the **IIS Applications by NTCMD or UDA** job runs successfully.

Global ID	Problem	Solution
	junctions with earlier creation time.	
Asset Manager (AM) Integration Fixed Defects		
QCCR1E113177	When setting the isolation level in the AM database for integration for the AM Push adapter, getting an error regarding the snapshot isolation.	Updated the documentation about the Step 3 for SQL Server in the *HP UCMDB Universal Discovery Content Guide - HP Integrations* as follows: 3. Create a table for each of the following counters. To do this, follow the instructions in the *Eliminating locks and deadlocks* chapter of the *Asset Manager Tuning Guide*. • amAsset_AssetTag • amBrand_BarCode • amModel_BarCode • amModel_ModelRef • amAssignment_Code • amEmplDept_BarCode • amComputer_Group • amComputer_Domain • amComputer_Vm • amComputer_MD • amComputer_Name • amSoftInstall_Code • amMonitor_Serial
QCCR1E118467	When running the AM Push Adapter in the parallel mode, the following error message is returned: "Error (12,001): The maximum number of active connections(64) has been reached".	The Error (12,001) does not occur when running the AM push jobs.
QCCR1E118984	After adding two overflow tables in Asset Manager, the AM Push Adapter inserts data instead of updating the existing records. This is due to the AM API that is used in the Push Adapter to query data from AM database.	The AM Push Adapter can now update the existing records correctly.
QCCR1E119552	The AM Push Adapter with the TQL query **AM Host Server And Running VM Relations Push** fails with errors. Some of the CIs are pushed to Asset Manager, but the statistics report shows nothing.	The AM Push Adapter can display the statistic information when errors occur.
QCCR1E120078	This is a request to improve the AM Push Adapter to push the same data as the	• Added mapping of the last used time for the installed software

Global ID	Problem	Solution
	DDMI to AM scenarios did, especially in terms of software utilization usage data.	- derived from the software utilization. - Added mapping of the in-focus software utilization attributes for the installed software.
QCCR1E121550	Software utilization CIs are set to missing after being inserted or updated in Asset Manager by the AM push adapter, though these utilization CIs exist in UCMDB and are pushed successfully into Asset Manager.	Fixed the issue by separating installed software and user software utilization push through different TQL queries and mappings. Now the existing TQL query **AM Installed Software Push** pushes installed software CIs only. The new TQL query **AM Software Utilization Push** is responsible for pushing User_ Software_Utilization CIs. The mapping files for the new TQL query are **pushMappingNormalizedSWUtil.xml** and **pushMappingSWUtilNonNorm.xml**.
QCCR1E123489	In the **UCMDB10.20_DiscIntegContent_HP_ Integrations(Content Pack 15).pdf**, the following three chapters are related to the Asset Manager integration: *Chapter2 HP Asset Manager Population Integration* *Chapter3 HP Asset Manager Push Integration* *Chapter4 HP Asset Manager Integration with the AM generic Adapter* It is not clear which chapter should be referred to when setting up the integration between UCMDB 10.20 and Asset Manager 9.5.	When setting up the integration between UCMDB 10.20 and Asset Manager 9.5, refer to the beginning of Chapter 2 and Chapter 3. It is recommended to use the Generic Adapter where possible.
QCCR1E124743	In UCMDB 10.20 CUP1 CP15.02.169, it is not possible to configure an integration point to Asset Manager 9.3. The **Test connection** button fails with the following error message: "Caused by: com.peregrine.ac.AmException: Error (12.006): Value 'xyz' is not a valid integer	The AM Push Adapter can connect to Asset Manager 9.3 correctly.

Global ID	Problem	Solution
	(32-bit)".	
QCCR1H95685	The AM Push Adapter chooses one of IP addresses as the Primary IP address.	Fixed the issue by using the new field **Primary IP address** on Node as the value of **amComputer.TcpIpAddress**.
QCCR1H96353	The AM Population will populate new Asset CI when the AssetTag of a computer is changed in the AM client.	Fixed the issue by using the global ID of amAsset as the reconciliation key for the Asset CI.
QCCR1H96790	After you remove an installed software which has userSoftwareUtlization sub-node and run a delta push, the **bMissing** of installed software is changed to 1 but the **bMissing** of utilization is still 0.	After applying the solution in QCCR1E121550, the **bMissing** of software utilization is correctly set to 1.
QCCR1H96792	After you remove a UserSoftwareUtilization CI in UCMDB and run a delta push job, other UserSoftwareUtilization CIs are set to missing unexpected.	After applying the solution in QCCR1E121550, the delta push sets the **bMissing** of deleted software utilization CIs to 1 and does not update other utilization CIs.
QCCR1H96965	When deploying the AM Generic Adapter and AM Push Adapter at the same time, it fails with the following error message: "class/root/data/object /configuration/ amadapterprotocol.xml Package contains duplicated resources".	The two adapters can now be deployed at the same time without errors.
QCCR1H98187	AM Push and Population adapters do not support Asset Manager version 9.50.	AM Push and Population adapters now support Asset Manager version 9.50.
QCCR1H98679	When running the AM Push Adapter in the parallel mode, the "NullPointerException" error may occur.	The push job successfully runs in the parallel mode without the " NullPointerException" errors.
QCCR1H99806	The AM Push Adapter fails to push business element relations with the following error message "Failed executing AQL: update amAsset set LAstId='xxx' where LAstId=xxx".	When pushing business element relations, assets are not allowed to be updated.
QCCR1H100593	In the *HP UCMDB Discovery and Integration Content Guide - HP Integration* PDF document, the Default owner name is displayed in *Chapter 3: HP Asset Manager Push Integration > Create an Integration Point in UCMDB* (on Page 96).	This field is moved to *Chapter 4: How to Integrate UCMDB and Asset Manager > HP UCMDB Setup > Create an Integration Point in UCMDB*.